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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,914	02/27/2004	Takeshi Hosomi	2497-000002/CP	8905
27572 7590 01/19/2007 HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER POULOS, SANDRA K	
			ART UNIT	PAPER NUMBER
			1714	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/19/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/789,914

Applicant(s)

HOSOMI ET AL.

Examiner

Sandra K. Poulos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/17/04; 4/24/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. The restriction requirement has been withdrawn and all claims are rejoined and have been examined.

### *Priority*

2. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Japan on 8/31/2001. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter. Also, applicant has not filed a certified copy of the JP 2001-264385 application as required by 35 U.S.C. 119(b).

### *Claim Objections*

3. Claim 17 is objected to because of the following informalities: It is unclear whether the laminate or the prepreg is being claimed (a *laminate* formed by laminating a metallic foil). Clarification is requested.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-5, 9-10, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosomi (US 5,976,699).

Hosomi discloses an adhesive that is coated on a metallic foil which is part of a circuit board (col 6, lines 57-63). The composition contains (a) a bisphenol type epoxy resin or phenoxy resin having a MW of at least 10,000; (b) a bisphenol type epoxy resin having an epoxy equivalent of not more than 500; and (c) an epoxy resin curing agent (col 2, lines 33-44). In Example 1, the (b) epoxy resin has a MW of 380. Filler such as silica and calcium carbonate are added in an amount of less than 40 wt% of the composition (col 4, lines 34-43).

It is to be noted that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Thus, Hosomi anticipates the cited claims.

5. Claims 1-13 and 15-19 are rejected under 35 U.S.C. 102(a) as being anticipated by Yabuki (JP 2003-206360), wherein a computer generated translation is used hereafter.

Yabuki discloses a prepreg composition containing a cyanate resin, particularly novolak type cyanate resin, with a MW of 500-4500 (para 10, 20), a phenolic resin with a MW of 400-18,000 (para 12-15), an inorganic filler such as silica with a particle diameter of 0.2-2 microns in an amount of 40 to 70 wt% (para 16-17). Curing agents including organic acids (which would be liquid at room temperature) are used (para 24). The resin impregnates a base material such as non-woven fibers (para 25-28) or glass (para 16, 47). A metallic foil is laminated with the prepreg and used in a printed circuit (para 30) in semiconductor applications (para 2-4). It is processed by heating under pressure (para 53). A biphenyl dimethylene type phenol resin is added, which would have a moisture absorption lower than the thermosetting resins (para 32).

Thus, Yabuki anticipates the cited claims.

6. Claims 1, 3, 13, 15, 17, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai (JP 2002-172736).

Sakai discloses a metal foil clad laminated sheet using prepreps formed by impregnating a glass nonwoven fabric with a thermosetting resin (abstract). The laminate is formed by pressurized heating (claim 1). The thermosetting resin includes (a) an epoxy resin with a MW greater than 5,000, particularly 5,000 to 50,000; (b) an epoxy resin with a MW of less than 5,000; and (c) a curing agent (claim 2; para 5). The prepreg is used in printed circuits (para 10). Fillers such as bulking agents, colorants, antioxidants may be added (para 33).

Thus, Sakai anticipates the cited claims.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sakai (JP 2002-172736) or Yabuki (JP 2003-206360) or Hosomi (US 5,976,699).

The discussion with respect to Sakai or Yabuki or Hosomi in the paragraphs above are incorporated herein by reference.

Although the above references are silent with respect to the reaction rate of the compositions, the applications and compositions therein are substantially similar to the currently claimed composition, thus it is examiner's position that although it is not specifically recited, the compositions in the above references would nonetheless inherently meet the requirements for the currently claimed reaction rate, or alternatively, would obviously have been present in the Sakai or Yabuki or Hosomi products, absent evidence to the contrary.

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### Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 2002-020461 discloses an epoxy resin composition used as a prepreg to provide a base for an IC package, the composition containing (a) a novolak type epoxy resin, (b) a second epoxy resin, (c) a phenolic type curing agent, (d) 9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide, and (e) an inorganic filler (abstract). Between 10 and 50 wt% inorganic filler is used, particularly fused silica with a mean particle diameter of less than 1 micron (para 9).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 8:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*SKP*

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